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MEDIAEVAL VERSIONS OF THE POSTERIOR ANALYTICS

BY CHARLES H. HASKINS

IN the intellectual history of the Middle Ages one of the most fundamental facts is the persistent and pervasive influence of the writings of Aristotle. Always considerable, this influence grew and spread as new groups of the master's works became available to the scholars of western Europe, and it can be measured and defined only as we can ascertain accurately the date, the character, and the diffusion of the different Latin versions of each portion of the Aristotelian *corpus*. In a general way it is well understood that the *Categories* and the *De interpretatione* were accessible throughout the Middle Ages in the translations of Boethius; that the other logical works were quite unknown to the earlier period and came to be used only in the second quarter of the twelfth century, whence they were called the *New Logic*; that the *Physics*, *Metaphysics*, and *Parva Naturalia* reached the West about 1200; and that the *Rhetoric*, *Ethics*, and *Politics* make their appearance in the course of the next two generations.¹ There are, however, many obscure and doubtful points in this process, and the doubt and obscurity are greatest with reference to the period of the twelfth century. Thus we know nothing of the channels by which the *Metaphysics* suddenly reached Paris at the beginning of the thirteenth century, and we are ignorant of the date and authorship of the two versions, one from the Greek and one from the Arabic, through which it was thereafter known. With regard to the *Physics*, it is

¹ See in general Jourdain, *Recherches critiques sur l'âge et l'origine des traductions latines d'Aristote*² (Paris, 1843); and on the translations from the Arabic especially Steinschneider, *Die europäischen Uebersetzungen aus dem Arabischen*, in Vienna *Sitzungsberichte* (1904-05), phil.-hist. Klasse, CXLIX, iv, CLI, i. On the general aspects of the movement see Sandys, *History of Classical Scholarship*², I, especially pp. 527, 567-569, 587 f.; and for the best summary of the present state of our knowledge, Mandonnet, *Siger de Brabant*² (Louvain, 1911), pp. 9-15. "La storia dell' aristotelismo è ancora da farsi," says Marchesi, *L'Etica Nicomachea nella tradizione latina medievale* (Messina, 1904), p. 1.

still necessary, not only to determine the exact time when the version from the Arabic reached Latin Europe,¹ but also to investigate the problem of possible earlier translations from the Greek. An incomplete copy in the Vatican which cannot be later than the very beginning of the thirteenth century establishes the existence of a version of the *De physico auditu* made from the Greek but differing from the Greco-Latin version later current,² and reasons have been advanced

¹ In the translation of Gerard of Cremona; cf. the text in MS. Lat. VI, 37 of St. Mark's (Valentinelli, *Bibliotheca Manuscripta*, V, 9): secundum translationem Gerardi. On the dates when these treatises reached Paris, see *Harvard Studies in Classical Philology*, XX, 86; Mandonnet, *loc. cit.*, pp. 13-15. It is dangerous to use catalogues of manuscripts as evidence of such dates. Thus MS. 221 of Avanches, containing the *Physics*, which is ascribed by Delisle to the twelfth century, is more probably of the thirteenth, as is clearly MS. 428 of the Biblioteca Antoniana at Padua. So MS. 421 of the Antoniana, containing the *Metaphysics* and likewise placed in the twelfth century by the printed catalogues, is clearly of the fourteenth. A copy of the *Meteorologica* in the Laurentian (MS. Strozzi 22), also attributed to the twelfth century, is plainly of the thirteenth. For similar mistakes with respect to manuscripts of the *New Logic*, see below, p. 96, n. 3.

² MS. Regina 1885, ff. 89-94 v; cf. *Harvard Studies*, XXIII, 164. Although my former attribution of this MS. to the twelfth century was confirmed by excellent palaeographical authority, further examination shows that it cannot with certainty be placed earlier than the opening years of the thirteenth century. I have found no other copy of this version, which begins as follows: *Aristotilis physice acroaseos*. A. Quoniam agnoscere et scire circa methodos omnes accidit quarum sunt principia vel causę vel elementa, ex eorum cognitione tunc enim unumquodque cognoscere putabimur cum causas agnoverimus primas et principia prima et usque ad ġementa; palam quia et de natura scientię temptandum est diffinire primum quę circa principia sunt. Apta vero a notioribus nobis via et manifestioribus ad manifestiora natura et notiora. Non enim eadem nobis nota et simpliciter. Ideoque hoc modo procedere et necesse de inmanifestioribus quidem natura nobis vero manifestioribus ad manifestiora natura et notiora. Sunt autem nobis primum aperta et manifesta confusa magis, posterius autem ex his fiunt nota elementa et principia dividunt ea. Quapropter ab universalibus ad singularia oportet progredi. . . . Ergo quia sunt principia et que et quot numero determinatum sit nobis ita. Rursum aliud incoantes principium dicimus. *Aristotilis physice acroaseos* .A. *explicit*. Book II begins as follows on f. 94, but breaks off abruptly on the verso: Entium alia quidem sunt natura alia causas propter alias. Natura vero dicimus esse animalia et eorum partes atque plantas ac alia corporum ut terram ignem et aerem atque aquam; hęc enim et similia natura dicimus esse. . . . For specimens of the current translations from the Greek and the Arabic, see Jourdain, pp. 405-407. The version of MS. Reg. 1885 is probably of south-Italian or Sicilian

for thinking that the treatise was known, at least indirectly, to the school of Chartres half a century earlier.¹ Certainly the current rendering of the fourth book of the *Meteorologica* was made from the Greek by Henricus Aristippus in Sicily before 1162;² there is evidence that the Greek text of the *De caelo* was known there in the same period;³ and further research may quite possibly carry back other works of which versions from the Greek are known in manuscripts of the thirteenth century.⁴

The place of the *New Logic* in the thought of the twelfth century is better known, but there are intricate and perplexing problems connected with it, and fresh evidence is much needed. The history of the *Posterior Analytics* offers the greatest difficulty, yet it cannot be considered apart from the other members of this group of treatises, and any new light which may be shed upon it will make correspondingly clear some points connected with the *Prior Analytics*, the *Topics*, and the *Elenchi*. Moreover, since it was considered the most advanced and the most difficult of these works, its diffusion and assimilation serve to measure the range and depth of Aristotelian studies throughout the period.

origin, and should perhaps be connected with the occurrence of a Greek MS. of the first book of the *Physics* in the oldest catalogues of the papal library, the Greek part of which collection was probably derived from the library of the Sicilian kings. For the MS. see the catalogue of 1295 in *Archiv für Litteratur- und Kirchengeschichte des Mittelalters*, I, p. 41, no. 442; and the catalogue of 1311 in Ehrle, *Historia Bibliothecae Romanorum Pontificum*, I, p. 97, no. 610. For the origin of the Greek MSS. of the papal library see Heiberg, *Les premiers MSS. grecs de la bibliothèque papale*, in *Oversigt of the Danish Academy*, 1891, pp. 315-318; *id.*, in *Hermes*, XLV, p. 66, XLVI, p. 215; Ehrle, *Nachträge zur Geschichte der drei ältesten päpstlichen Bibliotheken*, in *Festgabe Anton de Waal* (Rome and Freiburg, 1913), pp. 348-351.

¹ Duhem, *Du temps où la scolastique latine a connu la physique d'Aristote*, in *Revue de philosophie* (1909), XV, pp. 163 ff.

² Rose, in *Hermes*, I, p. 385. The explicit statement concerning the authors of the translation of the *Meteorologica* will also be found in MS. 1428, f. 171, and MS. 9726, f. 58 v, of the Biblioteca Nacional at Madrid.

³ *Harvard Studies*, XXI, pp. 82, 99. Cf. Heiberg, in *Hermes*, XLVI, p. 210; Mortet, in *Bibliothèque de l'Ecole des Chartes*, LXXIV, p. 364.

⁴ See particularly Baumeister, *Die Stellung des Alfred von Sareshel*, in *Munich Sitzungsberichte*, 1913, no. 9, especially pp. 33 ff., where evidence is given of early translations of the *De anima* and the *Parva naturalia* from the Greek.

The reception of the *New Logic* was the privilege of the generation living between 1121 and 1158.¹ When Abelard wrote his *Dialectic*, ca. 1121, the Latin world knew none of the logical works of Aristotle except the *Categories* and the *De interpretatione*.² In 1132 Adam du Petit-Pont makes use of the *Prior Analytics*, to which his contemporary Gilbert de la Porrée likewise refers his readers. Otto of Freising, a student at Paris ca. 1130 and in close touch with philosophical developments in France and Italy until his death in 1158, became acquainted with all parts of the *New Logic*, which he was the first to introduce into Germany. His master, Thierry of Chartres, who lived until 1155, or shortly before, but taught at Paris for some years before 1141,³ reproduces the whole *Organum*, save only the *Posterior Analytics* and the second book of the *Priora*; while the *Posteriora*, cited in Sicily in the same period, comes to its own in the north in the analysis given by Thierry's pupil John of Salisbury in his *Metalogicus* in 1159. The later emergence of the *Posterior Analytics* does not necessarily indicate a reception distinct from the allied works, but is rather to be explained by its difficulty, *paucis ingeniis pervia*, and the corruption of the Latin text;⁴ and it is altogether likely that the arrival of the *New*

¹ On these questions see Prantl, *Geschichte der Logik im Abendlande*², II, pp. 98 ff.; Grabmann, *Geschichte der scholastischen Methode* (Freiburg, 1909-11), I, pp. 149-151, II, pp. 66-81; Mandonnet, *Siger de Brabant*², pp. 9 f.; Schmidlin, *Die Philosophie Ottos von Freising*, in *Philosophisches Jahrbuch* (1905), XVIII, pp. 160-175; Hofmeister, *Studien zu Otto von Freising*, in *Neues Archiv* (1911), XXXVII, especially pp. 654-681; Webb, *Ioannis Saresberiensis Policraticus*, I, pp. xxiii-xxvii.

² Aristotelis enim duos tantum, predicamentorum scilicet et Periermenias, libros usus adhuc Latinorum cognovit. Cousin, *Ouvrages inédits d'Abélard*, p. 228. There is, however, a citation of the *Prior Analytics* on p. 305, which doubtless represents a later addition to the original form of the work. The history of the *Analytics* in the earlier Middle Ages might appear in a new light if we could explain a passage in John the Scot which cites the *Analytics* where the *Metaphysics* is probably meant. Rand, *Johannes Scottus* (Munich, 1906), pp. 6, 42.

³ I agree with Hofmeister in denying the force of the argument of Clerval (*Les écoles de Chartres*, p. 245) for dating the *Heptateuchon* of Thierry before 1141.

⁴ John of Salisbury, *Metalogicus*, 4, 6, in Migne, *Patrologia*, CXCIX, col. 919: *Posteriorum vero Analyticorum subtilis quidem scientia est et paucis ingeniis pervia, quod quidem ex causis pluribus evenire perspicuum est. Continet enim artem demonstrandi, que pre ceteris rationibus disserendi ardua est. Deinde hec utentium raritate iam fere in desuetudinem abiit, eo quod demonstrationis usus vix apud solos mathematicos est, et in his fere apud geometras duntaxat; sed et*

Logic is to be placed in the earlier, rather than in the later, years of the period with which we are dealing. In any case its sudden appearance in the logical and philosophical literature of the second quarter of the twelfth century should be brought into relation to a much-discussed notice of the year 1128. Under that year we read in the chronicle of Robert of Torigni, abbot of Mont-Saint-Michel:¹

Iacobus clericus de Venecia transtulit de greco in latinum quosdam libros Aristotilis et commentatus est, scilicet Topica, Analyticos Priores et Posteriores, et Elencos, quamvis antiquior translatio super eosdem libros haberetur.

This entry is not found in the earliest redaction of the chronicle, completed in 1156-57, but appears in the redactions of 1169 and 1182, for the latter of which we have the author's own copy, and there can be no doubt that it emanated from Robert himself, who was by no means ignorant of what went on in Italy and who on more than one occasion takes the opportunity of mentioning significant facts of literary history.² Although the entry is not strictly contemporary, it is by a well-informed contemporary writer, and while the date may not be absolutely exact, it falls within a few years of the only other known reference to James of Venice, which mentions him at Constantinople in 1136.³ In the passage of Robert two important points stand

huius quoque discipline non est celebris usus apud nos, nisi forte in tractu Ibero vel confinio Africe. Etenim gentes iste astronomie causa geometriam exercent pre ceteris, similiter Egyptus et nonnullae gentes Arabie. Ad hec liber quo demonstrativa traditur disciplina ceteris longe turbatio est, et transpositione sermonum traiectione litterarum desuetudine exemplorum que a diversis disciplinis mutuata sunt. Et postremo, quod non attingit auctorem, adeo scriptorum depravatus est vitio ut fere quot capita tot obstacula habeat, et bene quidem ubi non sunt obstacula capitibus plura. Unde a plerisque in interpretem difficultatis culpa refunditur, asserentibus librum ad nos non recte translatum pervenisse.

¹ Ed. Delisle, Société de l'Histoire de Normandie, I, p. 177; also in *Monumenta Germaniae Historica, Scriptores*, VI, p. 489.

² See the well-informed notices of Gratian (I, p. 183), Master Vacarius (I, p. 250), Burgundio of Pisa (I, p. 270; II, p. 109), and Gilbert de la Porrée (I, p. 288).

³ Anselm of Havelberg, *Dialogi*, 2, 1, in d'Achery, *Spicilegium* (Paris, 1723), I, p. 172 (= Migne, *Patrologia Latina*, CLXXXVIII, col. 1163): Aderant quoque non pauci Latini, inter quos fuerunt tres viri sapientes in utraque lingua periti et litterarum doctissimi, Iacobus nomine Veneticus natione, Burgundio nomine Pisanus natione, tertius inter alios precipue grecarum et latinarum litterarum doctrina apud utramque gentem clarissimus Moyses nomine Italus natione ex civitate Per-

out: the existence of an earlier version of the *Topics*, *Analytics*, and *Elenchi*, and the new rendering, with its accompanying commentary. Nothing is said respecting the author of the earlier translation, but in the absence of any other known version it has generally been identified with that of Boethius. We have then to explain the main problem in the Aristotelian tradition of the early Middle Ages, namely why, if these works were translated by Boethius, they remained unknown from the sixth to the twelfth centuries, only to come to light at the very moment when they were also translated by James of Venice. Recently a solution has been sought, first by denying that any such translations were made by Boethius¹ or, at least, that they survived, and then by maintaining that the versions current in the later Middle Ages under his name were really the work of James of Venice, in whose time they first emerge.² James of Venice is himself a riddle. His learning, his knowledge of Greek, and his opportunity of access to Greek texts of Aristotle³ are known to us from Anselm of Havelberg's account of the disputation at Constantinople in 1136,⁴ but he is mentioned by no other chronicler, and no translations have been found

gamo; iste ab universis electus est, ut utrimque fidus esset interpres. On Moses of Bergamo see Haskins, in *Byzantinische Zeitschrift* (1914), XXIII, pp. 133-144. On Burgundio see [Fabroni], *Memorie istoriche di piu uomini illustri Pisani* (Pisa, 1790), I, pp. 71-104; Savigny, *Geschichte des römischen Rechts im Mittelalter*², IV, pp. 394 ff.; Buonamici, *Burgundio Pisano*, in *Annali delle Università Toscane*, XXIV; Ghellinck, *Les oeuvres de Jean de Damas en occident au 12^e siècle*, in *Revue des questions historiques* (1910), LXXXVIII, pp. 140-160; *id.*, *Le mouvement théologique du xii^e siècle* (Paris, 1914), pp. 245 ff.

¹ In view of the explicit statements of Boethius on this point (*In Topica Ciceronis*, Migne, LXIV, coll. 1051, 1052; *De differentiis topicis*, *ib.*, coll. 1173, 1184, 1193, 1216), this denial of authorship (Schmidlin, p. 169; Grabmann, II, p. 71) cannot be taken seriously. Cf. Brandt, *Entstehungszeit und zeitliche Folge der Werke von Boethius*, in *Philologus*, LXII, pp. 250, 261; Mandonnet, *Siger de Brabant*², p. 8.

² This attribution to James was suggested by Rose, in *Hermes* (1866), I, pp. 381 f. Schmidlin and Grabmann succeed in convincing themselves that it has really been proved. Hofmeister (*Neues Archiv*, XXXVII, pp. 657, 659, 663) is more cautious on this point, while denying positively the Boethian authorship of the current version.

³ On Aristotelian studies at Constantinople in the eleventh and twelfth centuries see Grabmann, II, pp. 74 f., and the literature there cited.

⁴ *Supra*, p. 91, n. 3.

in his name. With the field thus free for conjecture, some have cast doubt upon the statement of Robert of Torigni,¹ while others have made of James the chief intermediary in the transmission of the *New Logic* to Latin Europe. Neither of these views seems to me a sound interpretation of existing evidence, and both are invalidated by a new source of information.

In the library of the chapter of Toledo there is preserved a manuscript of the thirteenth century² containing three translations of the *Posterior Analytics* and a version of the commentary of Themistius. One of the translations is the mediaeval version from the Greek commonly attributed to Boethius, another the ordinary version from the Arabic. The third³ contains a text which I have not succeeded in finding elsewhere, accompanied by a preface of exceptional interest:

[V]allatum multis occupationibus me dilectio vestra compulit ut Posteriores Analeticos Aristotelis de greco in latinum transferrem. Quod eo

¹ So Jourdain, p. 59.

² MS. 17-14, containing seventy-seven folii in different hands of the thirteenth century. The title of the volume at the top of f. 1 has been cut off. The MS. begins with the preface to the unknown translation discussed in this article, this translation ending on f. 11 v. Ff. 13-28 v have *Translatio Posteriorum Analyticorum Aristotilis* [secundum] with a letter effaced, *i. e.*, the version current under the name of Boethius. F. 29, *Translatio Posteriorum Analyticorum Aristotilis secundum Thom.* *Omnis doctrina et omnis disciplina cogitativa non fit nisi ex cognitione . . .* (= the ordinary version from the Arabic; see Jourdain, p. 404). F. 54, *Explicit liber Posteriorum Analyticorum Aristotilis secundum translationem Th. Incipit commentum Themistii super eandem translationem Posteriorum Analyticorum. Scio quod si intendo . . .* (Jourdain, p. 405; see below, p. 102). The treatise breaks off abruptly at the bottom of f. 77 v.

MS. 17-14 is not described by José Octavio de Toledo, *Catálogo de la librería del cabildo toledano*, supplement to *Revista de Archivos*, VIII and IX, and separately, Madrid, 1903. This catalogue, made in the library at the time of the revolution of 1869, has been printed without verification or completion and without any indication of the important MSS. at that time transferred to the Biblioteca Nacional at Madrid, where they still are. I examined MS. 17-14 at Toledo during the hour when the library was open May 2 and 14, 1913, but repeated efforts of friends to secure collations on the spot have been met with the statement that the MS. has been misplaced and can no longer be found. It will doubtless appear in due time, when the problems left open can be determined by certain collations, but this uncertain prospect does not seem to justify further delay in printing the conclusions which have been reached upon the basis of the accessible material.

³ F. 1.

affectuosius agressus sum quod cognoscebam librum illum multos in se sciencie fructus continere et certum erat noticiam eius nostris temporibus latinis non patere. Nam translatio Boecii apud nos integra non invenitur, et id ipsum quod de ea reperitur vitio corruptionis obfuscatur. Translationem vero Iacobi obscuritatis tenebris involvi silentio suo peribent Francie magistri, qui quamvis illam translationem et commentarios ab eodem Iacobo translatos¹ habeant, tamen noticiam illius libri non audent profiteri. Eapropter siquid utilitatis ex mea translatione sibi noverit latinitas provenire, postulationi vestre debebit imputare. Non enim spe lucri aut inanis glorie ad transferendum accessi, sed ut aliquid² conferens latinitati vestre morem gererem voluntati. Ceterum si in aliquo visus fuero rationis tramitem excessisse, vestra vel aliorum doctorum ammonitione non erubescam emendare.

Here at last is a new bit of evidence regarding James of Venice: his translation included both the *Posterior Analytics* and commentaries thereon; it has reached the centres of learning in France, but, apparently because they have not conquered its difficulties, the masters make no public use of it. This disposes at once of the theory that the version of James is apocryphal, while it also makes clear that this version was not the basis of the revival of the *Analytics*, and also renders it unlikely that it passed into general use and can thus be identified with the current translation. Robert of Torigni is also confirmed at another point, namely in his assertion, which some have sought to explain away,³ that there was an older version already in existence. This our preface ascribes to Boethius, thus adding one more to the number of those who in the twelfth century accepted this attribution.⁴ An explanation is also suggested why the Boethian translation came but slowly into use: it is incomplete, and the text is corrupt. This agrees exactly with John of Salisbury, who says of the current version, *adeo scriptorum depravatus est vitio ut fere quot capita tot obstacula habeat, et bene quidem ubi non sunt obstacula capitibus plura*;⁵ and the statement is amply confirmed by existing manuscripts, where to take only the instances where a Greek word was left standing in the Latin, we find in some cases merely *grecum*, while in others the word has become hopelessly corrupt.⁶ Thus in 1, 2 (Bekker, p. 71, l. 18), where

¹ So corrected in margin from *translationem*. ² Or *aliud*? MS. a'd.

³ Schaarschmidt, *Johannes Saresberiensis*, p. 122; Hofmeister, in *Neues Archiv*, XXXVII, pp. 658 f.

⁴ See below, p. 95.

⁵ *Metalogicus*, 4, 6, supra, p. 90, n. 4.

⁶ MS. Avranches 227 commonly has *grecum* in the passages cited in the text.

ἐπιστημονικόν was carried over and explained as *facientem scire*, we find in MS. R. 55 sup. of the Ambrosian (f. 194) *grecum* corrected to *apileticon* in the first instance and in the second instance *ginituopikoli*, while MS. H. IX, 2 of Siena (f. 130 v) has what seems intended for *epinuorikon*. In 1, 4 (Bekker, p. 73, l. 40) *ισόπλευρον καὶ ἐτερόμηκες* becomes in the Siena MS. (f. 132 v) *jjodniyipoθ* quod est equilaterum *kHedorinke* id est altera parte longius; in the Ambrosian (f. 195 v) *gyodtinkipo* quod est isopleros equilaterum *gkθuθcdeli*; in MS. VIII, 168 of St. Mark's (f. 94), *iodnaθpoθ* and *kaisodeorrylie*. In 1, 5 (Bekker, p. 74, l. 27) *ισόπλευρον* becomes *iodHaaqoH* and *kaiiodθaapop* in the Siena MS. (ff. 133 v, 134), and *ortoniegobon* in the Ambrosian (f. 196 v), while *σκαληνές* is represented respectively by *kokaajyon* and *okaanor*. In 1, 7, the Greek text reads (Bekker, p. 75, l. 15): *οἷον τὰ ὀπτικά πρὸς γεωμετρίαν καὶ τὰ ἀρμονικά πρὸς ἀριθμητικὴν*. This becomes in the Siena MS. (f. 135): *ut onti kay perspectiva ad geometriam kaaita apiHoyka* id est consonativa ad arimeticam. The Ambrosian MS. (f. 197 v) has *kagroapinopika*; MS. 557 of the Biblioteca Antoniana at Padua has *Rait^a apruopil'ia*.

The existence of these passages does not, of course, prove that the translation in which they occur was the work of Boethius, but the whole trend of the available evidence seems to me to lead to that conclusion. Boethius tells us specifically that he translated both *Analytics* as well as the *Topics*.¹ These, however, pass out of use in the early Middle Ages, and as late as the time of Sigibert of Gembloux, who died in 1112, he is known as the translator of the *Categories* and the *De interpretatione* only.² Then comes the revival of the *New Logic* in the second quarter of the twelfth century, and at once men begin to ascribe its Latin form to Boethius. Our translator is clear on this point; Otto of Freising evidently held the same view;³ the anonymous poet on the seven liberal arts in an Alençon manuscript is quite explicit.⁴ It is certainly significant that the generation which first possessed the *New Logic* considered Boethius to have been its trans-

¹ In *Topica Ciceronis*, Migne, LXIV, col. 1051; *De differentiis topicis*, *ib.*, col. 1184. See above, p. 92, n. 1.

² Migne, CLX, col. 555. ³ *Chronicon*, 5, 1 (ed. Hofmeister, p. 230).

⁴ MS. 10, in Ravaissou, *Rapports sur les bibliothèques de l'Ouest* (Paris, 1841), p. 406: *Transtulit hanc resolvendo binis analeticis*. Cf. Prantl, *Geschichte der Logik*², II, p. 105; Hofmeister, in *Neues Archiv*, XXXVII, p. 672.

lator. Moreover, when writers of this period quote passages from Aristotle they use the current version which in later manuscripts is regularly attributed to Boethius. This is notably true of Otto of Freising¹ and of John of Salisbury.² While in these cases the Latin text is not cited as being the work of Boethius, neither is it ascribed to any one else, and in the absence of twelfth-century manuscripts of the *New Logic*³ further evidence is not at hand. While later copies frequently mentioned Boethius as the translator, none refer to James of Venice, who after the three contemporary notices which have been cited disappears — *obscuritatis tenebris involvitur*. We know furthermore that the current version cannot be that of our anonymous translator, which is quite different, nor can it be the *nova translatio* cited by John of Salisbury,⁴ who distinguishes the two. Until some definite evidence is produced to the contrary, we are justified in regarding the current mediaeval version as the work of Boethius.⁵

It has indeed been urged by Grabmann⁶ that Boethius could not have been the author of the translation of the *New Logic* because its

¹ This is shown by Schmidlin, pp. 172–175, by means of a collation of MSS. Thierry of Chartres seems to use a different version of the *Prior Analytics*: Webb, *Ioannis Saresberiensis Policraticus*, I, p. xxv.

² Jourdain, pp. 254–256.

³ Assertions of the catalogues to the contrary are without foundation in the case of Cod. Lat. Monacensis 16123 and MS. 401 of the Biblioteca Antoniana, both of which are of the fourteenth century. I have verified Grabmann's statement (II, p. 78) that there are in Paris no MSS. of the *New Logic* anterior to the thirteenth century, and have searched in vain for such MSS. elsewhere. For mention of Aristotle in contemporary catalogues of the twelfth century see Manitius, *Geschichte der lateinischen Literatur des Mittelalters*, I, p. 30; Grabmann, II, p. 78. Except for the occasional occurrence of the translation from the Arabic, the MSS. of the thirteenth and fourteenth centuries give regularly the Boethian versions. Delisle is in error in saying that MSS. 224 and 227 of Avranches (*Catalogue des MSS. des départements*, X, pp. 103, 106) contain a different version.

⁴ See below, p. 100.

⁵ The citations of Aristotle by Boethius are too few to serve as a basis for identifying the translation, but it is noteworthy that the definition quoted in the *peri Epouelias*, 2, 6 (ed. Meiser, II, p. 122), from the beginning of the *Prior Analytics* (Propositio ergo est . . .) corresponds exactly with the current version.

⁶ II, p. 71: Ein Schriftsteller nun, dem solche Qualitäten als Stilisten und Latinisten von berufenster Seite zugesprochen werden, kann doch unmöglich die Latinität, die uns in den Aristoteleszitate des Otto von Freising und in den Analytiken, der Logik und der Elenchik der scholastischen Schullogik entgegentritt,

Latinity is unworthy of so accomplished a stylist. The defect of this argument of course lies, apart from the ignorance of Boethius which it betrays, in overlooking the difference between translation and independent composition. Boethius translated like a schoolboy because to him, as to the Middle Ages after him, faithful translation must be absolutely literal (*verbum verbo expressum comparatumque*), its purpose being *non luculentae orationis lepos sed incorrupta veritas*.¹ Hence the much more frequent occurrence of Grecisms in the translations than in his other works. Statistical comparisons, it is true, show stylistic variations among the several Boethian translations, as for example between the *Prior* and the *Posterior Analytics*;² but these do not go so far as to indicate difference of authorship and cannot be safely used when made upon the uncertain basis of the present printed text. In any event a writer who can create a genitive of comparison to render a passage in Aristotle's *Categories*³ cannot be deprived of the version of the *Elenchi* because he sees fit to render *μικρότατον* by *parvissimum*.⁴ If the argument proved anything, it would prove too much, for it would compel us to give up Boethius as a translator.

There remains still the problem why, with the translation of Boethius in existence, the *New Logic* was neglected until the twelfth century, and why it was so suddenly revived.⁵ For an answer we have at present only guesses. One may easily suppose that in an age which had use for only elementary logic, as it had for only the slenderest of

hervorgebracht und sich etwa grammatische Verstösse wie *parvissimum* geleistet haben.

¹ Boethius, *In Isagogen Porphyrii*, I (ed. Brandt, p. 135).

² See McKinlay's careful investigation in *Harvard Studies*, XVIII, pp. 123-156.

³ Migne, LXIV, col. 210; cf. McKinlay, p. 125.

⁴ 2, 9, as quoted by Otto of Freising, *Chronicon*, 2, 8 (ed. Hofmeister, p. 76). There is, of course, classical authority (e. g., Lucretius, I, 615, 621; 3, 199) for the *parvissimum* which shocks Grabmann. The retouching of the mediaeval version in the printed text (Migne, LXIV, col. 1040) is well illustrated in this whole passage.

⁵ There is also the problem as to what became of the Boethian commentaries on these works; cf. Brandt in *Philologus*, LXII, p. 250. Schmidlin (p. 169) uses the absence of such commentaries as an argument against the Boethian authorship of the translations, but similar reasoning might be used against his attribution of the translations to James of Venice, for we are expressly told that the version of James was accompanied by a commentary. See above, p. 94.

lawbooks, the advanced treatises fell into neglect and the manuscript tradition was correspondingly attenuated. In the revival of dialectic in the twelfth century men begin to seek additions to the store of logical writings and they discover the Boethian text. It is incomplete and corrupt, and attempts are made, at least two in number, to provide a better rendering. None of these attempts, however, succeeds in passing into general use, and the old translation, completed and perhaps improved but still in spots unintelligible, becomes the received version upon which mediaeval knowledge of the higher logic depends.

The character of the version of the Toledo manuscript will be clearer when it is seen beside the text of the current, or Boethian, version which is given below in the second column. The first book begins:

Omnis didasalia et omnis disciplina deliberativa¹ ex preexistenti fit cognitione. Manifestum autem hoc contemplantibus in cunctis. Etenim mathematice discipline per hunc modum veniunt et aliarum unaqueque artium. Similiter autem et circa orationes et que per sillogismos et que per inductionem; etenim utreque per precognita faciunt didasaliā, hee quidem accipientes ut ab intellectis, ille autem monstrantes universale per hoc quod manifestum est singulare. Similiter autem et rethorici persuadent, aut enim per exemplum,² quod est inductio, aut per enthymemata, quod est sillogismus. . . .

Book II begins and ends:

Quesita sunt equalia numero quot scimus. Querimus autem quatuor: quod, propter quod, an est, quid est. Etenim quando prius quidem hoc aut hoc querimus in numerum ponentes, sicut utrum deficit sol aut non.

.

Omnis doctrina et omnis disciplina intellectiva ex preexistenti fit cognitione. Manifestum est autem hoc speculantibus in omnes. Mathematice enim scientiarum per hunc modum fiunt et aliarum unaqueque artium. Similiter autem et circa orationes que per sillogismos et que per inductionem fiunt; utreque enim per prius nota faciunt doctrinam, he autem incipientes tanquam a notis, ille vero demonstrantes universale per id quod manifestum est singulare. Similiter autem et rhetorice persuadent, aut enim per exemplum, quod est inductio, aut per entimema, quod vere est sillogismus. . . .

Questiones sunt equales numero his quecumque vere scimus. Querimus autem quatuor: quod est, propter quod est, si est, quid est. Cum quidem enim utrum hoc aut hoc sit querimus in numerum ponentes, ut utrum sol deficiat aut non, ipsum quod querimus.

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¹ MS. *delibatā*.

² Gloss: *vel exempla*.

Si igitur nullum aliud preter scientiam genus habemus verum, intellectus sit scientie principium, et hoc quidem principium principii sit. Hoc autem omne similiter se habet ad <omnem> rem.

Si igitur nullum aliud genus preter scientiam habemus verum, intellectus utique scientie erit et hoc quidem principium principii utique erit. Hoc autem omne similiter se habet ad omne rerum genus.

Both renderings have the extreme literalness characteristic of mediaeval translations from the Greek, but the Toledo text is distinctly the closer of the two, as seen in the omission of the predicate and the carrying over of such words as *didascalía*. Other characteristics of this version are the use of *autem* instead of *vero* for $\delta\epsilon$, the insertion of a superfluous relative to represent the article in an attributive phrase,¹ and the rendering of the optative with $\alpha\upsilon$ by the subjunctive in cases where Boethius uses *utique* with the future indicative.² Though he had Boethius before him, the author still shows some independence, judged by mediaeval standards; his work is not that of an unskilled hand; and the fact that the preface contains no suggestion of ignorance or inexperience, such as is frequent in such prologues, makes it probable that this was not his first labor of translation.

No clew is given to the name of the translator or the friend to whom his work is dedicated, but the preface must have been written between the appearance of the translation of James of Venice in 1128 and the close of the twelfth century, when a new version had been made from the Arabic by Gerard of Cremona (d. 1187), and when the *Posterior Analytics* had begun to influence the teaching of logic at the University of Paris.³ Moreover, in all probability it is anterior to 1159, when the *Metaphysics* of John of Salisbury shows that the knowledge of the *Posteriora* was already "open to the Latin world," and can thus be placed in the generation which first received the *New Logic*. The author is in touch with the teaching of the French schools, yet he speaks of their masters (*Francie magistri*) in a way which implies that he was not a Frenchman; and his knowledge of Greek and access to the Greek text would imply that, if not an Italian, he was at least for the time being resident in Italy. We know that two of the Italian

¹ Thus $\tau\acute{o}\delta\epsilon \tau\acute{o} \epsilon\nu \tau\acute{\omega} \eta\mu\kappa\upsilon\kappa\lambda\iota\omega \tau\rho\acute{\iota}\gamma\omega\nu$ (Bekker, p. 71, l. 20) becomes hic qui in semicirculo triangulus.

² Cf. also the translation of the *Almagest*, *Harvard Studies*, XXI, p. 83, n. 3.

³ See below, p. 103.

translators of this period were acquainted with the *Posteriora*, the Pisan Burgundio, whom John of Salisbury cites in the *Metalogicus*¹ as an authority for a statement concerning Aristotle, and the Sicilian Henricus Aristippus, who in the preface to his version of the *Phaedo*, written in 1156, singles out the *Apodiptica* as one of the notable works to which scholars have access in Sicily;² but both of these are excluded from the authorship of the Toledo preface by its style and by the familiarity it betrays with French learning. Aristippus, it is true, has, on the basis of the passage just cited, been set down as a translator of the *Posteriora*, and further conjecture has made him the source of John of Salisbury's acquaintance with this treatise and the author of the *nova translatio* which John cites in a passage of the *Metalogicus*.³ There is, however, no reason for believing that Aristippus translated all the Greek writings which he cites in his prefaces, nor is there the least basis for identifying him with the *greco interpret* with whom John of Salisbury studied in Apulia and from whom he is, without any warrant, supposed to have obtained the *nova translatio*. John's

¹ 4, 7 (Migne, CXCIX, col. 920): Fuit autem apud Peripateticos tante auctoritatis scientia demonstrandi ut Aristoteles, qui alios fere omnes et fere in omnibus philosophos superabat, hinc commune nomen sibi quodam proprietatis iure vindicaret quod demonstrativam tradiderat disciplinam. Ideo enim, ut aiunt, in ipso nomen philosophi sedit. Si mihi non creditur, audiatur vel Burgundio Pisanus, a quo istud accepi. The passage does not show personal familiarity with the *Posteriora* on the part of Burgundio but merely knowledge of the Byzantine tradition, such as he doubtless acquired in the course of his visits to Constantinople. On Burgundio see the references above, p. 91, n. 3.

² *Hermes*, I, p. 388: Habes de scientiarum principiis Aristoteles Apodicticen, in qua supra naturam et sensum de axiomatis a natura et sensu sumptis disceptat. On Aristippus see Haskins and Lockwood, *The Sicilian Translators of the Twelfth Century and the First Latin Version of Ptolemy's Almagest*, in *Harvard Studies*, XXI, especially pp. 80 f., 86-89, 97.

³ 2, 20 (Migne, col. 885): Gaudeant, inquit Aristoteles (*Anal. Post.*, I, 22, Bekker, p. 83, l. 33), species; monstra enim sunt, vel secundum novam translationem cicadationes enim sunt; aut si sunt, nihil ad rationem. Cf. Rose, in *Hermes*, I, p. 381 ff. The identification of Aristippus with the *greco interpret* and the author of the *nova translatio* was first advanced by Rose on the basis of an ingenious combination of conjectures. It has been accepted without indicating its conjectural character by Grabmann and Schmidlin, and by Baeumker, in *Allgemeine Geschichte der Philosophie (Die Kultur der Gegenwart)*, I, 5), p. 313; Hofmeister and Mandonnet are more cautious. Webb gives a sober résumé of this *quaestio difficillima*. What is most needed is more facts.

familiarity with the *Posteriora*, which he is one of the first northern authors to cite,¹ may well have been the result of his frequent journeys to Italy, perhaps even of his sojourns in Apulia, but he quotes the "new translation" only once, and his steady reliance is on the current version. When the Toledo manuscript again becomes accessible to scholars, it will be easy to determine whether it contains the rendering of *τερεῖσματα* by *cicadationes* which earmarks the *nova translatio* of the *Metalogicus*. Meanwhile, since in this period we hear of a text of the *Posteriora* in Sicily only, it would seem that the home of the Toledo version should be sought there, while its author's acquaintance with the French schools points to one of the scholars from beyond the Alps who are found not infrequently as visitors to the southern kingdom.

The collation of another passage may very likely determine the relation of the Toledo version to still another translation from the Greek, cited as the work of a certain John by Albertus Magnus, who in one instance prefers it to the Boethian rendering.² The conjecture that the name is an error for James³ is not supported by the manuscripts, and the identification with John of Basingstoke⁴ has to explain the silence of Grosseteste, who, if a translation by his friend Basingstoke had been in existence, would certainly have made use of it in his commentary on the *Logic*. Another John who was concerned with the *Posterior Analytics* is John of Cornwall, under whose name a series of *Questiones* is preserved in a manuscript of Magdalen College, Oxford.⁵ Inasmuch, however, as this work con-

¹ He is usually considered the first, but the *Posteriora* seems to have been used, in a translation which requires investigation, by the author of the *De intellectibus*, which belongs to the school of Abelard. Prantl, *Geschichte der Logik*², II, p. 104, n. 19.

² In *Analytica Posteriora*, I, 4, 9; 2, 2, 5; *Opera* (Lyons, 1651), I, pp. 579, 624. See Jourdain, p. 310.

³ Jourdain, p. 59. I have collated MS. Vat. Lat. 2118, f. 140; and MS. Lat. 16080, f. 101 v, of the Bibliothèque Nationale.

⁴ Prantl, *Geschichte der Logik*, III, p. 5.

⁵ MS. 162, ff. 183-245 v; cf. Coxe, *Catalogus*, II, p. 75. The treatise begins and ends: Scire autem opinamur unumquodque cum causam recognoscamus . . . licet alia non cognoscatur nisi tantum in universali. Then follow Tituli questionum Cornubiensis to the number of forty-seven, with this explicit: Expliciunt questiones et tituli tam primi libri quam secundi Posteriorum Analeticorum dati a domino Johanne de Sancto Germano de Cornubia. Amen.

stantly cites *Lincolniensis*, it cannot be the work of John of Salisbury's contemporary of that name,¹ whose writings moreover betray no familiarity with Greek; and even if we crowd the chronology sufficiently to admit the citation of Grosseteste on the one hand and the use of the *Questiones* by Albert on the other, there is, in such portions of the text as I have been able to examine by means of photographs, no indication that any save the ordinary translation was used in the *Questiones*. For the present we must leave the problem of John's version unsolved.

Likewise of the twelfth century is the first translation of the *Posteriora* from the Arabic, which appears in the long list of works turned into Latin by that indefatigable translator Gerard of Cremona, who died in 1187.² No copy of this translation has been found under Gerard's name,³ but if it acquired anything of the popularity enjoyed by his other versions, we are justified in identifying it with a version which occurs not infrequently in manuscripts of the thirteenth century and is plainly derived from the Arabic.⁴ The list of Gerard's translations also includes the commentary of Themistius on the *Posteriora*, of which we have copies which are clearly based upon an Arabic original.⁵

¹ On whom see Kingsford, in *Dictionary of National Biography*, XXIX, p. 438.

² Boncompagni, *Della vita e delle opere di Gherardo Cremonense traduttore del secolo duodecimo*, in *Atti dell' Accademia dei Lincei* (1851), IV, p. 388; Wüstenfeld, *Die Uebersetzungen arabischer Werke in das Lateinische*, in *Abhandlungen of the Göttingen Academy* (1877), XXII, p. 58; Steinschneider, in *Vienna Sitzungsberichte*, CLIX, 4, p. 16.

³ It is, however, cited by Richard of Furnival, ca. 1250: Delisle, *Cabinet des MSS.*, II, p. 525.

⁴ Jourdain, p. 404, gives a specimen.

⁵ See the specimen in Jourdain, p. 405; and cf. MS. Lat. 14700 of the Bibliothèque Nationale; MS. 17-14 of Toledo, f. 54; Cod. Lat. Monacensis 317 (*Catalogus Codicum MSS. Latinorum*, edition of 1892, I, p. 80). Probably this is the commentary mentioned in the mediaeval catalogue of the Sorbonne: Delisle, *Cabinet des MSS.*, III, p. 57.

It may be observed in this connection that the MSS. themselves give no support to Valentinelli's statement (*Bibliotheca Manuscripta*, IV, pp. 13-15) that the translation of the *Topica* and *Elenchi* in two codices of St. Mark's is the work of Abraham de Balmes, the physician of Cardinal Grimani. The MSS. are anterior to Abraham's time, and the text has the *incipiis* of the current mediaeval version.

By the close of the twelfth century, accordingly, there had been produced at least four Latin versions of the *Posterior Analytics*, the work respectively of Boethius, James of Venice, the anonymous translator of the Toledo manuscript, and Gerard of Cremona; while further investigation is required to determine whether the *nova translatio* cited by John of Salisbury and the version of the unknown John should be added as a fifth and a sixth or are to be identified in one or both cases with those of James of Venice and of the Toledo text.

As a subject of academic study the *Posterior Analytics* found its way slowly into the mediaeval universities. Alexander Neckam, who can hardly have begun his studies at Paris before 1175, describes the change in the teaching of logic there produced by its introduction,¹ and Roger Bacon speaks of the first lectures on it at Oxford as given in his time by a certain Master Hugh.² Elaborate commentaries were, however, prepared by the great schoolmen of the thirteenth century, some of whom took pains to collate the different versions. Grosseteste, though relying mainly upon the current Boethian translation, also cites *alie translationes* and the commentary of Themistius.³ The *Questiones* of John of Cornwall, whoever he may have been, seems to follow Grosseteste and the current version.⁴ Albertus Magnus is careful to compare this version, which he ascribes to Boethius, with that from the Arabic and with that of the unknown John, and cites the works of Themistius and John the Grammarian, as well as the Arab commentators.⁵ The commentary of Thomas Aquinas on the *Posteriora* ⁶ is, like his other commentaries, less discursive and follows with some closeness the current text, corrected in at least one instance

¹ *De naturis rerum*, ed. Wright, p. 293: Antequam legeretur liber ille asserebant doctores Parisienses nullam negativam esse immediatam. Sed hic error sublatus est de medio per beneficium Apodixeos. On Neckam's biography, see *Harvard Studies*, XX, pp. 78 f.

² Rashdall, *Universities of the Middle Ages*, II, p. 754; Sandys, *History of Classical Scholarship*², I, p. 570.

³ Baur, *Die philosophischen Werke des Robert Grosseteste*, in Baeumker's *Beiträge zur Geschichte der Philosophie des Mittelalters* (1912), IX, p. 18*. I have examined MS. Borghese 306 of the Vatican.

⁴ *Supra*, p. 101.

⁵ See his commentary in *Opera* (Lyons, 1651), I, pp. 513-658; and cf. Jourdain, pp. 308-310.

⁶ *Opera* (Rome, 1882), I, pp. 129-403.

by reference to the Greek.¹ The ordinary version is also followed by the later schoolmen, Egidio Colonna, Albert of Saxony, and Walter of Burley.²

It is characteristic of the place which Aristotle still held in European thought that he should have been one of the earliest authors at whom the humanists tried their hand. Roberto de' Rossi, the first pupil of Chrysoloras, busied himself with the works of the Stagyrte, seeking to soften the bare harshness of the literal version of Boethius,³ and we have from his pen a rendering of the *Posterior Analytics* which can be definitely assigned to the close of the year 1406. Voigt, it is true, knows of Robert's translations only through their mention by Guarino of Verona and says they do not occur in the manuscript catalogues;⁴ but MS. 231 of the *Fondo antico* of St. Mark's⁵ contains *Aristotelis Posteriorum Analiticorum nova Roberti translatio*, accompanied by a preface and by verses at the end which fix the date by reference to the reconstruction of the citadel and walls of Pisa.⁶ Valentinelli indeed infers from these verses that the author was a Pisan of the late fourteenth century, but *nostri cives* would have no point if a Pisan were speaking, and the only others so engaged at Pisa were the Florentines, whose fortification of the city and oppression of the con-

¹ Bk. I, lect. 6, according to the text of Jourdain, p. 396. I can find no evidence that, as Mandonnet says (pp. 11, 40-42), William of Moerbeke translated the logical works for the benefit of St. Thomas. The passages cited from contemporary writers do not mention these among William's Aristotelian translations, nor is any copy of them known. Cf. Grabmann, II, 70.

² The commentaries of Egidius Romanus and Burley exist in various early editions. That of Albertus de Saxonia is in MS. 227 of Avranches (*Catalogue des MSS. des départements*, X, p. 106).

³ Dignus enim vir ille ut cunctis modis humanitatis auribus insinuetur atque sterilis illa durities quam ad verbum translatio pepererat pro viribus nostris civibus delinienda et demulcenda paulum fuit (*sic*). F. 2 v of the MS.

⁴ *Wiederbelebung*³, I, p. 289, II, p. 173.

⁵ Parchment, written in a humanistic hand of the fifteenth century. Cf. Valentinelli, *Bibliotheca Manuscripta ad S. Marci Venetiarum*, IV, p. 32.

⁶ Haec ego dum conor nostris aperire Latinis

Interea nostri reparabant turribus arcem
Pisanam murisque novis atque aggere cives.

The lines are given in full by Valentinelli.

quered after its final capture¹ are here exactly described. The author is not further indicated, but the name and year can point only to Robert de' Rossi.² Freer in style and less indebted to the mediaeval rendering was the more popular Renaissance version which John Argyropoulos dedicated to Cosmo de' Medici.³ The Boethian translation, however, persisted in early imprints, corrected and touched up in course of time in ways which still require investigation,⁴ but still holding its own by reason of its faithfulness to the text of the master whose words were not to be lightly changed.

¹ See *Cronichetta di anonimo pisano*, in Corazzini, *L'assedio di Pisa* (Florence, 1885), p. 75; Matteo Palmieri, in Muratori, *Scriptores*, XIX, p. 194; Morelli, *Cronaca*, p. 338.

² The text begins (f. 4): *Omnis doctrina omnisque disciplina intellectiva ex antea existenti efficitur cognitione. Preclarumque hoc est his qui per cuncta aciem mentis intenderint. Quę enim scientiarum sunt mathematicę per huiusmodi modum acquiruntur atque aliarum etiam quęvis artium. . . .*

³ It begins: *Omnis doctrina omnisque disciplina intellectiva ex antecedenti cognitione fieri solet. Id si omnis quo fiunt pacto considerabimus manifestum profecto fiet . . .* MS. Vat. Lat. 2116, f. 49 v. For the author's prefaces in MSS. of the Laurentian, see Bandini, *Catalogus Codicum Latinorum*, III, coll. 4, 350.

⁴ The humanistic retouching of the text in the Basel edition and in Migne is obvious but cannot be studied until we have a critical restitution of the mediaeval text. It should, however, be kept in mind that the text of these editions is not, as Grabmann thinks (II, p. 72), the same as the version of Argyropoulos.